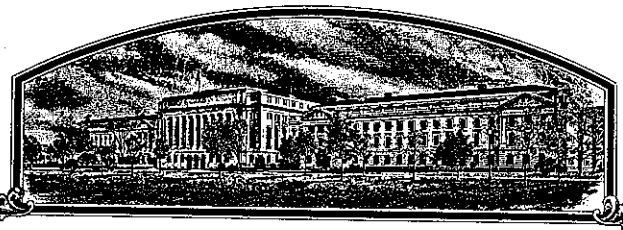
No. 8300011



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

International Seeds Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF eighteen YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

TALL FESCUE

'Houndog'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington this 24th day of March in the year of our Lord one thousand nine hundred and eighty-three.

Attest:

Kenneth [illegible]
Acting
Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

John R Block
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, MEAT, GRAIN & SEED DIVISION

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

FORM APPROVED: OMB NO. 0581-0005

No certificate for plant variety protection may be issued unless a completed application form has been received (5 U.S.C. 553).

1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION	3. VARIETY NAME
International Seeds Inc.	TF. 791	Houndog

4. ADDRESS *(Street and No. or R.F.D. No., City, State, and Zip Code)*	5. PHONE *(Include area code)*	FOR OFFICIAL USE ONLY
P.O. Box 168 Halsey, OR 97348	503-369-2251	PVPO NUMBER 8300011

6. GENUS AND SPECIES NAME	7. FAMILY NAME *(Botanical)*	FILING DATE	FILING TIME
Festuca arundinacea	Gramineae	11/1/82	11:00 [X] A.M. [ ] P.M.

8. KIND NAME	9. DATE OF DETERMINATION	FEES RECEIVED
Tall fescue	August 1, 1981	AMOUNT FOR FILING $ 500.00 DATE 11/1/82 AMOUNT FOR CERTIFICATE $ 250.00 DATE 2/16/83

10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION *(Corporation, partnership, association, etc.)*

Corporation

11. IF INCORPORATED, GIVE STATE OF INCORPORATION	12. DATE OF INCORPORATION
Oregon	August 1972

13. NAME AND ADDRESS OF APPLICANT REPRESENATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS

G. Pepin, Director of Research
International Seeds Inc.
P.O. Box 168
Halsey, OR 97348

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED

a. [X] Exhibit A, Origin and Breeding History of the Variety *(See Section 52 of the Plant Variety Protection Act.)*

b. [X] Exhibit B, Novelty Statement

c. [X] Exhibit C, Objective Description of the Variety *(Request form from Plant Variety Protection Office.)*

d. [ ] Exhibit D, Additional Description of the Variety

15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? *(See Section 83(a) of the Plant Variety Protection Act.)* [ ] Yes *(If "Yes," answer items 16 and 17 below)* [X] No

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?	17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
[X] Yes [ ] No	[X] Foundation [X] Registered [X] Certified

18. DID THE APPLICANT(S) FILE FOR PROTECTION OF THE VARIETY IN THE U.S. OR OTHER COUNTRIES?

[ ] Yes *(If "Yes," give names of countries and dates)*

[XX] No

19. HAVE RIGHTS BEEN GRANTED IN THE U.S. OR OTHER COUNTRIES?

[ ] Yes *(If "Yes," give names of countries and dates)*

[X] No

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT	DATE
Gerard N. Pepin	October 27, 1982
SIGNATURE OF APPLICANT	DATE

FORM LMGS-470 (9-81) (Edition of 1-78 is obsolete)

14A. ORIGIN AND BREEDING HISTORY OF HOUNDOG TALL FESCUE

1. Houndog is an advanced generation synthetic variety derived from the open pollinated progenies of seven parent clones. The original 300 spaced-plant breeder block was established in 1978 and the first breeder seed harvested in 1979.

About 150 of the breeder block spaced-plants were derived from open pollinated seed of a plant selection, designated as LPK1. LPK1 was selected from an old turf area in Lexington, Kentucky by Dr. C.R. Funk of Rutgers University.

The other 150 spaced-plants were derived from open-pollinated seed produced from tillers dug from 6 selected turf plots. These turf plots were selected from a tall fescue turf trial planted in 1976. The seed used to plant the 1976 turf trial came from 6 open-pollinated spaced-plants selected in 1974 and 1975 for dark green color, good density, fine leaves, and freedom from disease. Four of these spaced-plant selections were derived from the germplasm source "Rutgers T1" pollinated with "Missouri 96". The other two spaced-plants were derived from seed of a plant selection from Knoxville, Tennessee pollinated with "Rutgers T1".

2. The first breeder seed of Houndog was harvested in 1979. This seed was used to plant a larger breeder block (4 acres) in the fall of 1979. The remainder of the 1979 breeder seed was used for turf evaluation trials.

The 1980 and 1981 crop seed from the 4 acre breeder block was used to extensively evaluate the turf performance of Houndog throughout the U.S. and other parts of the world. The remainder of the breeder seed was used to plant seed production fields in western Oregon.

The first certified class seed of Houndog should be harvested in 1982 - pending the acceptance of Houndog into the Oregon certification system.

3. No objectionable varieties or offtype plants have been observed during the reproduction and multiplication of Houndog. However, since Houndog

FORM APPROVED: OMB NO. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, MEAT, GRAIN AND SEED DIVISION
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Tall & Meadow Fescues)

OBJECTIVE DESCRIPTION OF VARIETY

TALL & MEADOW FESCUES

(Festuca spp.)

NAME OF APPLICANT(S)	TEMPORARY DESIGNATION	VARIETY NAME
International Seeds Inc.	TF. 791	Houndog

ADDRESS *(Street and No., or R.F.D. No., City, State, and Zip Code)*
P.O. Box 168
Halsey, OR 97348

FOR OFFICIAL USE ONLY
PVPO NUMBER 8300011

Place the appropriate number that describes the varietal character of this variety in the boxes below. Use leading zeroes when necessary (e.g., [0][8][9] or [0][9]). Characteristics described, including numerical measurements, should represent those that are typical for the variety. Measured data should be for SPACED PLANTS. Royal Horticultural Society or any recognized color fan may be used to determine plant colors; designate system used: _____. Describe location of test area, conditions and number of plants used _____.

1. SPECIES: (With comparison varieties for use below — use varieties within species of application variety)

[1]

1 = *F. arundinacea* (Tall) — 11 = Alta; 12 = Fawn; 13 = Goar; 14 = Kentucky-31; 15 = Festal; 16 = S.170; 17 = Rebel; 18 = Manade; 19 = Kenhy; 20 = Missouri 96

2 = *F. pratensis* (Meadow) — 21 = Ensign; 22 = Trader; 23 = Beaumont; 24 = Admira; 25 = Comtessa

2. CYTOLOGY:

[4][2] Chromosome Number

3. ADAPTATION: (0 = Not Tested; 1 = Not Adapted; 2 = Adapted)

[2] Transition Zone [2] West [ ] Other *(Specify)* _____

4. MATURITY: (Date First Headed, panicle emergence) Location(s) of Trial(s) Tangent, Oregon

[4] Maturity Class:

1 = Very early ( ) 2 = Early (Alta, Fawn, S.170) 3 = Medium early (K31, Falcon)
4 = Medium late (Barundi, Rebel, Ensign, Kenhy) 5 = Late ( )

Date Headed May 11

[0][0]	Days earlier than	[1][7]	Comparison Variety
	Maturity same as	[1][7]	
[1][3]	Days later than	[1][2]	

5. PLANT HEIGHT (Average of 10 tallest culms):

[1][3][2][0] mm Height (at maturity to top of panicle)

[1][1][0]	mm Shorter than	[1][4]	Comparison Variety
	Mature Height same as	[ ][ ]	
[0][2][0]	mm Taller than	[1][1]	

[ ][ ][ ][ ] mm Height (at ear emergence)

[ ][ ][ ]	mm Shorter than	[ ][ ]	Comparison Variety
	Emergence height same as	[ ][ ]	
[ ][ ][ ]	mm Taller than	[ ][ ]	

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5. PLANT HEIGHT: (Continued)

[ ] mm Internode length (spring)

[ ] mm Shorter than . . . . . [ ]
Internode same as . . . . . [ ]
[ ] mm Longer than . . . . . [ ]
Comparison Variety

[ ] mm Width of plant (at ear emergence)

6. GROWTH HABIT (Mature):

[2] 1 = Erect, foliage stiff-upright (Kentucky 31) 2 = Semi-erect (Beaumont, Rebel)
3 = Lax (Aberystwyth S.53)

7. RHIZOMES (Pseudo):

[ ] mm Length [2] 1 = Absent 2 = Rare (Rebel) 3 = Common

8. LEAF BLADE:

[4] Color: 1 = Light Green (Roa) 2 = Medium Light Green (Beaumont, Kentucky 31)
3 = Medium Dark Green (Rebel) 4 = Dark Green ( )

[ ] Anthocyanin: 1 = Absent 2 = Present [ ] Hairs (Basal) 1 = Absent 2 = Present

[3] Margins: 1 = Smooth 2 = Semi-rough 3 = Rough

[2] Width Class: 1 = Fine ( ) 2 = Medium Fine (Rebel, Monaco) 3 = Medium Coarse (K-31, Barundi)
4 = Coarse (Kenhy) 5 = Very Coarse (Hazel)

[1 2 1] mm Length (Flag Leaf)

[7 0] mm Shorter than . . . . . [1 4]
Blade length same as . . . . . [- -]
[- -] mm Longer than . . . . . [ ]
Comparison Variety

[ ] mm Width

[ ] mm Narrower than . . . . . [ ]
Blade width same as . . . . . [ ]
[ ] mm Wider than . . . . . [ ]
Comparison Variety

9. LEAF SHEATH:

[ ] Anthocyanin (seedling): 1 = Absent (Kentucky 31) 2 = Present (Kenhy, Forager)

[ ] Auricle Hairiness: 1 = Absent 2 = Present

10. PANICLE (Mature Plant):

[ ] Shape: 1 = Narrow-tapering 2 = Ovate 3 = Oblong 4 = Other *(Specify)* _____

[1] Type: 1 = Open 2 = Intermediate 3 = Compact (appressed)

[2] Orientation: 1 = Erect 2 = Nodding

[ ] Branch Pubescence: 1 = Glabrous 2 = Pubescent

[ ] Anther Color:

[ ] Glume Color (At 50% Flowering):

1 = Yellowish Green 2 = Green 3 = Bluish Green
4 = Purplish 5 = Reddish 6 = Other *(Specify)* _____

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10. PANICLE: (Continued)

2 2 0	mm Length (from base of panicle branch to the tip)		
2 6	mm Shorter than	1 4	Comparison Variety
	Panicle length same as		
0 3	mm Longer than	1 7	

11. PALEA:

[ ] HAIRS (On keels or margins): 1 = Absent 2 = Short (Missouri 96) 3 = Long ( )

12. LEMMA:

[ ] HAIRS: 1 = Absent (Kenhy) 2 = Several 3 = Many (Missouri 96)

6 0	mm Lemma Length (Mature)		
1 2	mm Shorter than	1 2	Comparison Variety
	Lemma length same as		
	mm Longer than		
	mm Lemma Width		
	mm Narrower than		Comparison Variety
	Lemma width same as		
	mm Wider than		

[ ] AWNS: 1 = Absent (Beaumont) 2 = Present (Falcon, Barundi)

	mm Awn Length		
	mm Shorter than		Comparison Variety
	Awn length same as		
	mm Longer than		

13. SEED (With Lemma & Palea):

2 0 3 0	mg per 1000 seed		
0 7 5 0	mg per 1000 seed less than	1 1	Comparison Variety
	Seed weight same as		
0 3 0 5	mg per 1000 seed more than	1 4	

14. DISEASE, INSECT, AND NEMATODE REACTION (0 = Not Tested; 1 = Susceptible; 2 = Resistant)

2	Melting-out *Drechslera poae (Helminthosporium vagans)*	0	Blind Seed *Gloeotinia temulenta*
		0	S. Patch *Sclerotinia homoeocarpa*
2	Leaf Spot *D. siccans*	2	Stripe Smut *Ustilago striiformis*
1	Net Blotch *D. dictyoides*	0	O. Patch *Ophiobolus gramminis*
1	Brown Patch *Rhizoctonia solani*	0	T. Blight *Typhula incarnata*
0	C. Leaf Spot *Cercospora fecticee*	1	Pythium Blight *Pythium spp.*
0	Pink Snow Mold *Fusarium nivale*	2	Powdery Mildew *Erysiphe graminis*
0	Silver Top *F. tricinctum, F. roseum*	0	Nematode _____
2	Crown Rust *Puccinia coronata*		

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14. DISEASE, INSECT, AND NEMATODE REACTION: (Continued)

☐ Insect _____

☐ Other _____

☐ Other _____

15. ☐ PHOTOPERIOD: 1 = Non-sensitive 2 = Sensitive

16. [2] WINTER HARDINESS: 1 = Susceptible 2 = Resistant

17. GIVE VARIETY OR VARIETIES THAT MOST CLOSELY RESEMBLE THE APPLICATION VARIETY. For the following characteristics indicate Degree of Resemblance by placing in the column marked, D.R., one of the following numbers:

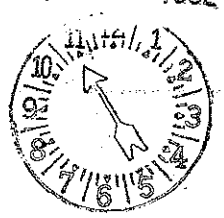
1 = Application variety is less than comparison variety 2 = Same as
3 = More than, better, greater, darker, more disease resistant, etc.

CHARACTER	VARIETY	D.R.	CHARACTER	VARIETY	D.R.
Leaf Width	Olympic	2	Leaf Color	Olympic	3
Panicle Color			Panicle Shape	Olympic	2
Seed Size	Olympic	2	Cold Injury		
Winter Color			Heat		
Shade Tolerance			Disease*		
Drought Tolerance					

* *Specify each disease evaluated.*

18. ADDITIONAL DESCRIPTION: (Use additional sheets as required)

Describe all characteristics that cannot be adequately described in the form above in Exhibit D. Comparative varieties should be used as may be appropriate, such as for disease. Append all comparative trial and evaluation data, including measured characters, environmental, and disease tests.



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is an open-pollinated variety, plant to plant variation consistant with synthetic varieties of other cross-pollinated grass species is observed. Individual plants significantly earlier in maturity or with coarser, broader, leaves have been observed and removed from the breeder seed field.

4. Comparisons of three successive generations of Houndog (1979, 1980, and 1981 crop seed) indicate that Houndog has acceptible uniformity and stability when compared with other tall fescue varieties.

Exhibit 14b.

NOVELTY STATEMENT FOR HOUNDOG TALL FESCUE

Houndog is a dark green turf type tall fescue capable of producing a close cut turf superior in density, leaf texture, persistance, and color to the older tall fescue varieties such as Fawn, Alta, and Kentucky 31.

It is similar to the newer "turf-type" varieties such as Rebel, Falcon, and Olympic. As data in tables 1 and 2 indicate, Houndog is significantly different from all other tall fescue varieties.

Houndog is significantly later in maturity than Falcon and Olympic and has a significantly shorter flag leaf. (Table 1).

Houndog most closely resembles Olypmic. However, Houndog is significantly later in maturity (5 days) than Olypmic and has a significantly shorter flag leaf (Table 1).

Under closely mown turf cut at one inch, Houndog is significantly darker green than Olympic (Table 2). Using the Royal Horticultural Society Color Chart, Houndog has a color of R.H.S. 136A and Olympic has a color of R.H.S. 136B.

Table 2

COLOR INTENSITY OF TALL FESCUE TURF PLOTS
UNDER CLOSE MOWING AT TANGENT, OREGON.
Oct. 1982

Variety	Color Intensity 9=darkest green	R.H.S. Color Chart
Houndog	7.5	136A
Rebel	5.0	137D
Olympic	6.7	136B
Falcon	6.3	137B
Fawn	4.3	137D
Alta	4.3	137D
Ky 31	4.7	137D
LSD .05	0.6	

Table 1

SPACED-PLANT COMPARISONS OF TALL FESCUE CULTIVARS
At Tangent, Oregon in 1982

Variety	Plant Height (cm)	Panicle Length (mm)	Flag Leaf Length (mm)	Date of 50% Heading
Houndog	132	220	121	May 11
Rebel	135	217	160	May 11
Olympic	133	235	145	May 6
Falcon	131	230	150	May 4
Fawn	138	235	177	Apr. 28
Alta	130	238	171	Apr. 28
Ky 31	143	246	191	May 2
LSD.05	15	24	16	3 days